## **AUTHOR INDEX**

Affanni, J.M., L. Garcia Samartino, E.B. Casanova and R. Dezi: Absence of apnea in armadillos covered by soil, 239

Agostoni, E., A. Mugnai Cavangna and G. Citterio: Effects of stretch receptors of bronchi or trachea on genioglossus muscle activity, 335

Barnas, G.M., see Stearns, R.C., 23

Bartlett, Jr., D., see Mortola, J., 137

Becquemin, M. H., M. Roy, D. Robeau, S. Bonnefous, J. Piechowski and A. Teillac: Inhaled particle deposition and clearance from the normal respiratory tract, 147

Ben Jebria, A., see Tabka, Z., 115

Bennet, W. D. and W. Mitzner: *In vivo* hysteresis of airspace dimensions measured by aerosol recovery, 85

Berger, P.J., see Soust, M., 283

Berkenbosch, A., see Schuitmaker, J.J., 69

Bonnefous, S., see Becquemin, M. H., 147

Brain, J.C., see Stearns, R.C., 23

Brancatisano, A., S.M. Kelly, A. Tully and L.A. Engel: Effect of expiratory glottic constriction on lung volume and pattern of breathing in adult dogs, 53

Burri, P. H., see Zeltner, T. B., 247

Burri, P.H., see Zeltner, T.B., 269

Caduff, J. H., see Zeltner, T.B., 247

Casanave, E.B., see Affanni, J.M., 239

Citterio, G., see Agostoni, E., 335

De Troyer, A. and V. Ninane: Effect of posture on expiratory muscle use during breathing in the dog, 311

DeGoede, J., see Schuitmaker, J.J., 69

Dezi, R., see Affanni, J.M., 239

Engel, L.A., see Brancatisano, A., 53

Fregosi, R.F., M. Sanjak and D.J. Paulson:

Endurance training does not affect diaphragm mitochondrial respiration, 225

Funk, G.D. and W.K. Milsom: Changes in ventilation and breathing pattern produced by changing body temperature and inspired CO<sub>2</sub> concentration in turtles, 37

Gandevia, S. C., see McKenzie, D., 171 Garcia Samartino, L., see Affanni, J.M., 239 Gehr, P., see Zeltner, T.B., 247 Glahn, J., see Yamaguchi, K., 209 Green, J.F., see Schneider, D.A., 347 Grimaud, Ch., see Jammes, Y., 379

Guenard, H., see Tabka, Z., 115

Guz, A., see Hamilton, R.D., 159

Haddad, G. G. and P. A. Lasala: Effect of parasympathetic blockade on ventilatory and cardiac depression induced by opioids, 101

Hamilton, R.D., A.J. Winning and A. Guz: Blockade of 'alveolar' and airway reflexes by local anesthetic aerosol in dogs, 159

Jammes, Y., B. Nail, N. Mei and Ch. Grimaud: Laryngeal afferents activated by phenyldiguanide and their response to cold air or helium-oxygen, 379

Kelly, S. M., see Brancatisano, A., 53

Lasala, P.A., see Haddad, G.G., 101

Marthan, R., J.-P. Savineau and J. Mironneau: Acetylcholine-induced contraction in human isolated bronchial smooth muscle: role of an intra-cellular calcium store, 127

McCloskey, D.I., see Potter, E.K., 357

McKenzie, D., and S.C. Gandevia: Influence of muscle length on human inspiratory and limb muscle endurance, 171

Mei, N., see Jammes, Y., 379

Milsom, W. K., see Funk, G.D., 37

Mironneau, J., see Marthan, R., 127

Mitchell, G.S.: Effects of hypoxemia on phrenic nerve responses to static lung inflation in anesthetized dogs, 183

Mitchell, G.S. and B.D. Selby: Effects of carotid denervation on interactions between lung inflation and Pa<sub>CO<sub>2</sub></sub> in modulating phrenic activity, 367

Mitzner, W., see Bennet, W.D., 85

Mortola, J., M. Saetta and D. Bartlett, Jr.: Postnatal development of the lung following denervation, 137

Mortola, J.P., see Sullivan, K.J., 295 Mugnai Cavangna, A., see Agostoni, E., 335

Nail, B., see Jammes, Y., 379 Ninane, V., see De Troyer, A., 311

Olievier, C.N., see Schuitmaker, J.J., 69

Parkos, C.A. and E.A. Wahrenbrock: Acute effects of hypercapnia and hypoxia on minute ventilation in unrestrained Weddell seals, 197

Paulson, D.J., see Fregosi, R.F., 225

Pfenninger, J., see Zeltner, T.B., 247

Piechowski, J., see Becquemin, M.H., 147

Piiper, J., see Yamaguchi, K., 209

Potter, E.K. and D.I. McCloskey: Excitation of carotid body chemoreceptors by neuropeptide-Y, 357

Robeau, D., see Becquemin, M.H., 147 Roy, M., see Becquemin, M.H., 147

Saetta, M., see Mortola, J., 137

Sanjak, M., see Fregosi, R.F., 225

Savineau, J.-P., see Marthan, R., 127

Scheid, P., see Shams, H., 1

Scheid, P., see Yamaguchi, K., 209

Schertel, E.R., see Schneider, D.A., 347

Schneider, D. A., E. R. Schertel and J. F. Green: Effects of end-expired pressure on phrenic output in servo-ventilated dogs, 347

Schuitmaker, J.J., A. Berkenbosch, J. DeGoede and C.N. Olievier: Ventilatory responses to respiratory and metabolic acid-base disturbance in cats, 69

Schuster, K.-D.: Diffusion limitation and limitation by chemical reactions during alveolar-capillary transfer of oxygen-labeled CO<sub>2</sub>, 13

Selby, B.D., see Mitchell, G.S., 367

Shams, H. and P. Scheid: Respiration and blood gases in the duck exposed to normocapnic and hypercapnic hypoxia, 1

Souhrada, J.F., see Souhrada, M., 323

Souhrada, M. and J.F. Souhrada: A transient calcium influx into airway smooth muscle cells induced by immunization, 323

Soust, M., A.M. Walker, F.E. Wilson and P.J. Berger: Origins and regional distribution of blood flow to the respiratory muscles in conscious sheep, 283

Stearns, R.C., G.M. Barnas, M. Walski and J.C. Brain: Deposition and phagocytosis of inhaled particles in the gas exchange region of the duck, *Anas platyrhynchos*, 23

Sullivan, K.J. and J.P. Mortola: Age related changes in the rate of stress relaxation within the rat respiratory system, 295

Tabka, Z., A. Ben Jebria and H. Guenard: Effect of breathing dry warm air on respiratory water loss at rest and during exercise, 115

Teillac, A., see Becquemin, M. H., 147

Tully, A., see Brancatisano, A., 53

Wahrenbrock, E.A., see Parkos, C.A., 197 Walker, A.M., see Soust, M., 183 Walski, M., see Stearns, R.C., 23 Wilson, F.E., see Soust, M., 283 Winning, A.J., see Hamilton, R.D., 159

Yamaguchi, K., J. Glahn, P. Scheid and J. Piiper: Oxygen transfer conductance of human red blood cells at varied pH and temperature, 209

Zeltner, T.B. and P.H. Burri: The postnatal development and growth of the human lung. II. Morphology, 269

Zeltner, T. B., J. H. Caduff, P. Gehr, J. Pfenninger and P. H. Burri: The postnatal development and growth of the human lung. I. Morphometry, 247

## SUBJECT INDEX

Abdominal muscles, 311	Carbon dioxide
Acetylcholine, 101, 127	ventilatory response to -, 1, 37, 197
Acid-base balance, 37	Carotid sinus nerve, 257, 367
metabolic acidosis, 1, 69	Chemoreceptors
Aerosol, 23, 85, 147, 159	arterial -, 69, 183, 357
Air capillaries, 23	central -, 69
Airways	Chest wall
dimension of -, 85	- mechanics, 311
Airway receptors, 159	Cold exposure, 379
Airway smooth muscle, 53, 127, 323	Compliance
Alveolar-arterial P difference, 1	lung -, 85, 295
Alveolar gas	Control of breathing, 53, 101, 347, 367
- composition, 13, 197	carbon dioxide
Amiloride, 323	ventilatory response to -, 1, 37, 197
Anesthetic gas, 159	chemoreceptors
Animals	arterial, 69
armadillo, 239	oxygen
cat, 69, 357, 379	ventilatory response to -, 183
dog, 53, 85, 101, 159, 183, 311, 347, 367	respiratory centers, 101
duck, 1, 23	Cross-current gas exchange, 1
guinea-pig, 323	Cytochrome $a/a_3$ , 225
humans, 13, 115, 127, 147, 171, 209, 247, 269	
rabbit, 335	Diaphragm, 171, 283, 335
rat, 137, 225, 295	Diffusion
seal, 197	- of gases, 209
sheep, 283	Diving mammals, 197
turtle, 37	
Apnea, 239	Erythrocyte, see Red cell
diving -, 197	Exercise, muscular, 115, 225
Asphyxia, 357	
	Fatigue, 171
Birds	Fetus lung, 247, 269
respiration in -, 1, 23	Frequency of breathing, see Breathing pattern
Blood flow, 283	
- in tissue, 283	Growth, 247, 269, 295
Bohr effect, 1	
Breath holding, 13, 239	Heart, 101
Breathing pattern, 53, 347, 367	Helium, 379
Bronchomotricity, 53, 127, 323	Hemoglobin
Burrowing animals, 239	oxyhemoglobin, 209
	Hexamethonium, 303
Calcium, 127, 323	Heymans-type chemoreceptors, 69, 183, 357
Capsaicin, 159	Hypercapnia, 1, 37, 197

Hypoxia, 1, 183, 197

Kinetics of combination of gas with blood, 209

Lactate blood, 1 Larynx, 53, 379

Lung
alveolar epithelium, 23
anatomy, 247, 269
compliance, 85, 295
diffusing capacity, 13
– growth, 137

mechanoreceptors, 183 receptors sensitive to CO<sub>2</sub>, 183

Mechanics of breathing, 137, 295
chest wall, 311
pulmonary compliance, 85, 295
Membrane permeability, 323
Metabolic acidosis, 1, 69
Mitochondrion, 225
Morphometry, 247, 269
Muscle
respiration of skeletal, 225

Muscular exercise, see Exercise, muscular

Naloxone, 101 Neuropeptide Y, 357 Newborn, 295 Nostril, 239

Opiates, 101
Oxygen
ventilatory response to -, 1, 183, 197
Oxygen consumption, 37, 283
maximal -, 225

Parabronchial lung, 1, 23 pH, see Acid-base balance

Phrenic nerve, 183, 347, 367
Posture, 311
Pulmonary circulation, 247, 269
Pulmonary diffusing capacity, 13
Pulmonary morphometry, 247, 269
Pulmonary receptors, 159, 183, 335, 347, 367

Q<sub>10</sub>, 209

Red cell, 209
Regulation of respiration, see Control of breathing
Respiratory frequency, see Breathing pattern
Respiratory muscles, 171
Respiratory reflexes, 159
Respiratory stimuli
carbon dioxide (hypercapnic drive) 1, 37, 53, 171, 197, 327
oxygen drive, 1, 183, 193, 197, 341
see also Control of breathing

Smooth muscle, 53, 127, 323 Stretch receptors, 183, 335, 347, 367 Sulfur dioxide, 335

Temperature
effect of body – on O<sub>2</sub> consumption, 37
Tidal volume, see Breathing pattern and Lung, volume
Trachea, 323

Vagal nerve
block of section of -,137, 311, 347
Ventilation
- and breathing pattern, 101
Ventilatory chemoreflexes, 159
Ventilatory response to hypercapnia, 1, 37, 197
Ventilatory response to hypoxia, 1, 183, 197

Water and respiration, 115

